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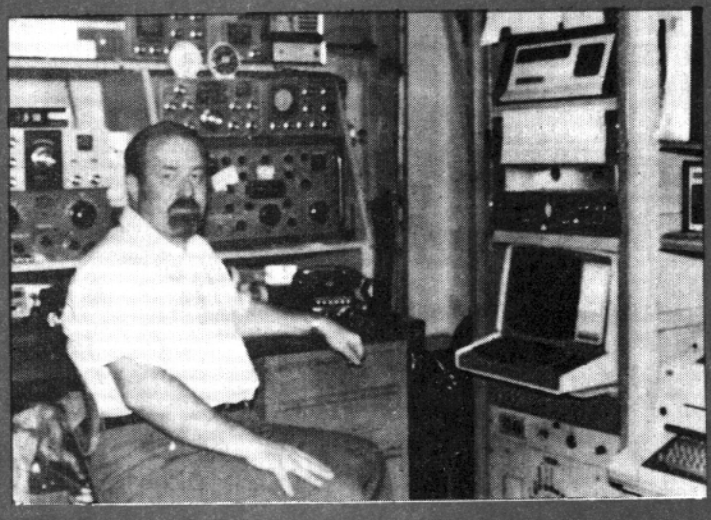

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COVER PICTURE IS OF KØJH EX KR6BQ, W8IF, OA3H and K25LP. Retired USA Navy....now Merchant Marine Radio Officer. Running HW-101 and SB-303 75 watts to a mini quad up 35 feet. Dovetron TU, Heathkit H-8 computer with H-19 terminal and H-17 dual floppy disks. Also running a Model 28 KSR/TD/Reperf. G.L. "JERRY" HALE KØJH.....

RTTY JOURNAL

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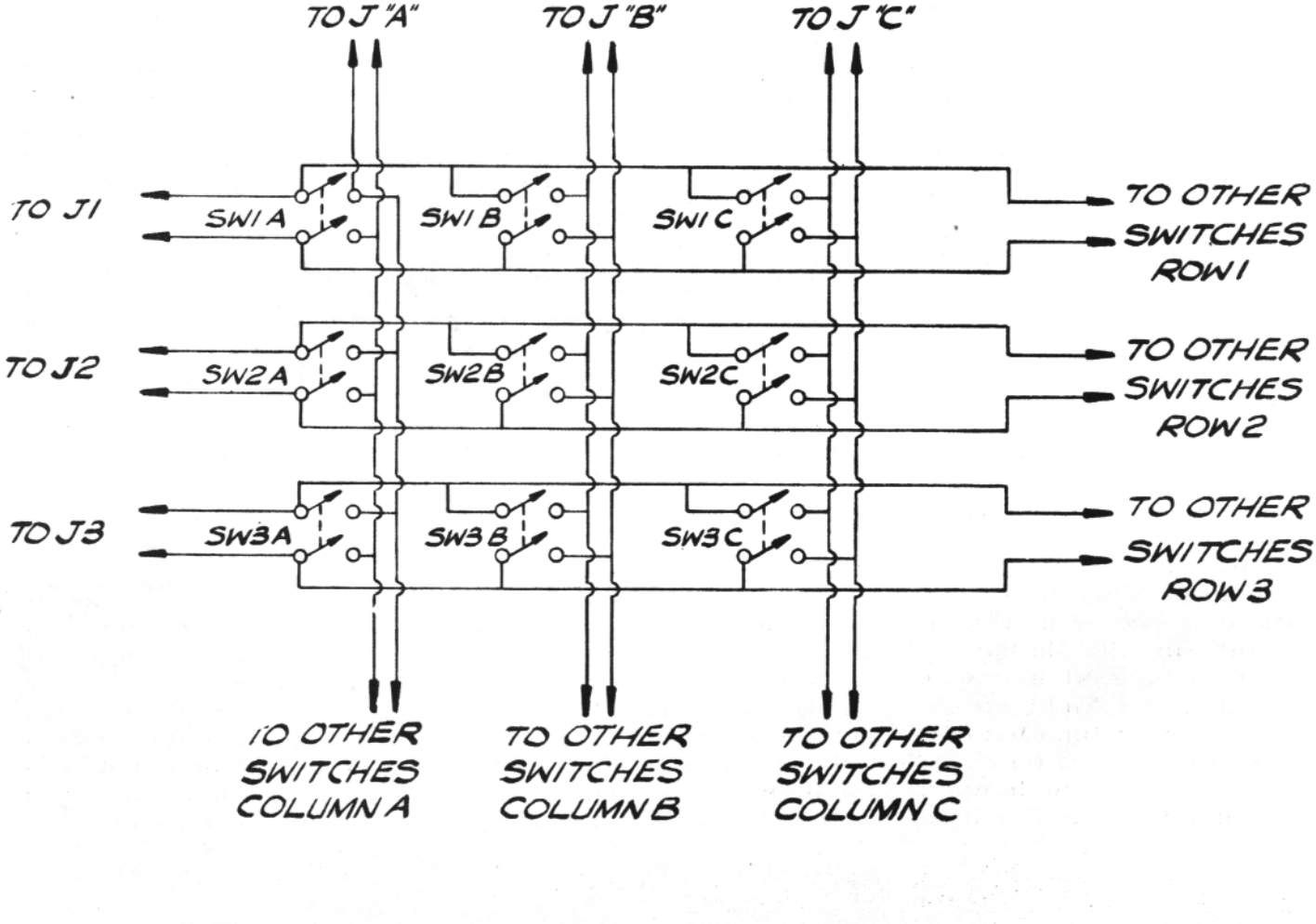

A FLEXIBLE AUDIO SWITCHING SYSTEM FOR RTTY, SLOW SCAN AND OTHER APPLICATIONS

RALPH IRISH, WA8GDT
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How many of us RTTY'ers have more than one: receiver, transciever, TU, speaker, AFSK or any combination of these devices? Probably a lot of us. Add to this the needs and requirements of hams involved with slow-scan TV, satellite weather mapping or any form of multi-station operation and it can be quite a hassle managing all of these audio "SOURCES" and "DESTINATIONS."

After several years of this "hassle" I decided to solve the problem once and for all. I didn't originate this idea, but I did adapt an idea that has been in use for quite awhile in the military. The solution is a CROSS-POINT MATRIX SWITCH ARRAY. Siimply, columns and rows of switches which are interconnected to do the switching. The horizontal rows of switches represent some audio "SOURCE" and the vertical columns represent some load or "DESTINATON". Once these devices are (semi-) permanently wired in, making a connection from your VHF receiver to your TU involves operating the switch in the corresponding row and column. If you want to monitor the signal on a local speaker, operate another switch. If you want to tape record the signal, one more switch operation will do it.

I got the idea for this from my Navy days as a Radioman on the USS Hancock, CVA-19. The Hancock was a (small by today's standards) aircraft carrier in the Pacific Fleet during the late 1950's and early 1960's. The central radio room had an audio patch which ran from floor to ceiling (oops ..deck to overhead) and was nearly 12 feet long. By rough estimation, it had about 16,000 twist-to-operate knobs which represented about 100 "sources" and 160 "destinations." (It was built from sub assemblies of 50 switches, 10 high and 5 wide, each on it's own hinged door.) Most of the remote radio rooms had one of these 5 by 10 switch panels for local audio switching and "Tie Line" switching back to Radio Central, and in some cases, to other remote radio rooms.

But I digress.

A local surplus store near my home had a large quantity of this general type of switch, so I bought them all and started planning and plotting.

Now, most high-level, low impedance, audio "sources" can be either one side grounded, or both sides "floating" above ground. The panel, as I built it, switches both sides of the audio line. In some cases, you might get by with just switching the "hot" side and making all the others common. I recommend that you not do it this way. I realize that when you connect a "floater" to something always grounded to the chasis, the "floater" is then grounded through the station common ground. But, in the long run you are better off by not grounding anything permanently which is not already grounded by the designer or manufacturer. Also, ground loops and annoying "hum" situations can occur if each item in the station is not properly grounded.

The switches I purchased were double pole, double throw, with one of the 6 contacts common to the frame of the switch body. Needless to say, I didn't mount the metal switches to a metal panel. The switches were about 3 3/4" long and required a ½" diameter hole. Since I prefer rack-mount equipment, I found a piece of "ENGRAVEABLE" front, particle board and made the layout on that.

If you are going to use particle board, plastic, micarta or some other synthetic material for this, I highly recommend that you use a drill press, and start out with a small, sharp drill, about 1/8th inch, perhaps, and work your way up to size in three or four steps. It is a lot more work that way, but the results are worth it. I have had several visiting hams ask me where I bought that switch panel, and, in my opinion, that is the ultimate compliment to the basement home brewer.

After all of the drilling, mounting and wiring had been done, I decided to mount the panel in a BUD VERTICAL PANEL CHASIS, (BUD #CB-1370 through 1377 depending on panel height.) On the rear of the BUD panel I mounted RCA type insulated phono jacks for semi-permanent connection to the "sources" and "destinations." Before final assembly, I took the drilled panel to a custom engraving shop and had the legends engraved on. (This is a permanent marking method, so be sure of what you want to say if you use this method.) Label makers or dry transfers should be suitable also.

The switches I used have an arrow engraved in the face of the knob. I oriented the switches so that when the arrow points to the left no connection is made, and when it is pointing up, the corresponding "source" and "destination" are connected.

I realize that when you connect a TU, a speaker and a tape recorder input line all to the audio output of your receiver, as I used for an illustration at the beginning, you are creating an impedance mis-match. But, since there are few if any "standards" (other than the so-called 500-600 ohms) on these items and most ham equipment manufacturers do not provide us with more than one audio output on the rear of our transcievers and receivers, and a "switching" headphone jack on the front, we are usually dealing with some kind of mis-match, anyway. How many of us connect only an 8 ohm speaker to an 8 ohm output jack, or always be sure to get a set of 2000 ohm earphones if that is what the book calls for? So with the variety of audio output impedances ofered to us by the manufacturers, anywhere from 3.2 ohms for a speaker to 5000 ohms for an anti-vox connection, it is hard to do it right if you want to.

If you are reluctant to connect your $800.00 transciever's audio output to what may be or become an open circuit, remember that, in most cases, you can keep the headphones plugged in to assure that the audio output device, either a tube, transistor or I.C. will not be running without a load. It wouldn't hurt to

Continued on page 14

HITS & MISSES

George Hammon WA6CQW
14215 Pecan Park Lane SP 73
El Cajon, CA 92021

FROM
THE
MAILBAG

WHERE ARE THE YL'S ON RTTY?

I was pleased, in response to my request to hear from some of the gal's on RTTY, to hear from Louise J. Crawley WB8JIB. I would like to share her letter with you.

Way back there in my novice days, I was intrigued with the idea of radio teletype, the om-to-be was not at all cooperative; he had military experience along this line and was familiar with the noisy, cumbersome, but reliable machines of that time. However, I told myself that (1) when I had more time (2)when I had more money (3) when I had better understanding of the theory of radio, I was going to use the RTTY method of communications. I am not at all sure that any of these qualifications have been met, but here I am, using RTTY now and liking it just as much as I thought I would. But, "where are the YL's on RTTY?"

It all started on an icy January day in 1979, being both impulsive and somewhat naive (a fearsome combination at best), the OM, WB8ICL and I drove to Columbus to buy a code reader, for which I had been yearning. Instead, (highly pleased with ourselves), we returned with an Info-Tech M-200E TU unit which we intended to hook up to an existing TV. It was only after we were home, had the TU in the line, and were scanning the frequency, did it occur to us that "hey, those are RTTY signals!" All we needed was a keyboard to get in there with them.

For a while then it was discussion time at our house, sometimes cool and rational, more often our voices raised in debate and downright arguments. Nevertheless, we did reach agreement and in a matter of days our keyboard was in the line. A whole new world opened to us, we stumbled along, learning as we went, and enjoying every QSO. But again, "where are the YL's" I asked plaintively. Many times (no, almosst every time), I inquired from the OM's if they could tell me about another YL, but received in answer, "You are my first YL contact", or "I didn't know there were any YL's using RTTY." This puzzled me--here is this beautiful method of communications with interesting people, uncrowded bands, and ease of operation, "where are the YL's?"

Yes, I have talked with YL's by this time, but they are few and far between. I am sure each state has a few using RTTY. However, I have found out that European and South American women operators are more likely to use RTTY than USA women. The OM and I have had several delightful QSO's with husband and wife teams in South America, Switzerland, France,Germany, Italy, and Great Britain. I have also discovered that many of the YL's that I have had QSO's with, have diversified interests, such as producing stained glass, raising dairy goats, and growing orchids. Not wishing to neglect the OM's on the bands, let me say here that QSO's with them are equally as diversified and interesting. In fact, boredom on the RTTY bands is conspicuous by its absence.

So what are our options in trying to answer the question, "where are the YL's on RTTY?" My personal opinion is that a formal net is too confining and apt to dissolve into nothingness. Rather, how about an auto start frequency and/or mailbox frequency that would be available to YL's for their use? For those who may be interested in this concept, or who have other ideas, I can be reached by mail at 1688 Clifton Road, Yellow Springs, Ohio 45387, or on the auto start frequency of 14.087.7 on 20 meters of if more convenient, the Midwest RTTY net which meets daily at 0230 ZULU time on 3.630.

73 to all and 33 to the YL's.

Louise J. Crawley - WB8JIB

I wish to thank Louise for a super letter. I hope to hear from other readers. Let's hear your thoughts on RTTY. Louise took the time to drop me a line.

VISIBILITY

I was recently reading an article on DX. The article covered many aspects of working DX, including RTTY. The article stated: "Very few amateurs work DX via RTTY". I pondered this article for a long time. Amateurs all over the world are gaining DXCC on RTTY. Amateurs are putting RTTY on from countries all over the world; every major club station around the world, from Russia to Japan, has RTTY gear. The visibility of RTTY has never been higher. I still wondered, is our visibility being exposed to the amateur who is not on RTTY? I feel strongly, that's what this article points out. Do we attend none RTTY club meetings? Do we recruit new members into our RTTY clubs? The visibility of many RTTY clubs comes up roses. They set up stations at fairs, shopping malls, and even give RTTY demo's at general amateur radio club meetings. This type of RTTY club has new members each month. This type of RTTY club shows up at ham conventions in matching jackets with the RTTY club emblems on the back.

The visibility we need is gained by a lot of hard work. I often hear people refer to RTTY amateurs as a small minority. I have tried hard to change this impression in my small way. We all can turn this around. Manufacturers of RTTY equipment know of our visiblility. RTTY articles are starting to show up in QST, ham radio, CQ, etc. We are no longer a small minority nor are we a small vocal minority. We are a full fledged major aspect of amateur radio. Let's expose the challenge, fun, and satisfaction of RTTY to your buddy down the street on CW or SSB.

So long for now! George WA6CQW
See you in Scottsdale in October with some of the other RTTY JOURNAL staff. Results of the survey will be in next months issue.

VHF NEWS

BY: JOHN CUNNINGHAM
P.O. BOX RY
PERRYSVILLE, INDIANA

WA9WJD

I got a report on the Italian earth quake traffic operation from W1YNE. I will give you a brief run down on the activity. Since they were in an area with a large Italo-American population, the operators expected and received a large number of inquires.

The system was geared accordingly. W1KKP, N1ASR & WA1YUD received inquiries by phone and relayed them to the tape centers. There N1NA, K1GK, WA1-USA, KA1BAT & WA1YVV made up tapes. The tapes were relayed to W1YNE on VHF RTTY. He made composites of these and tapes received from WB1CUS and K1BSO in the Boston area.

A sked was kept with 120LW twice every day from November 26th to December 13th to handle all of the traffic. W1YNE said that there was only one time that they encountered QRM and that station moved when contacted. This is not surprising to me, as I have always found that RTTY operators are the best mannered operators on the air.

The statistics on the operation are quite impressive, 250 hours of operation, 45 hours of QSO with Italy. There were 525 messages handled. Of the 205 inquiries, there was an 89% reply ratio- great work. There were PR spots on TV, radio and in four newspapers.

Participating stations were: W1YNE, WA1KKP, N1NA, K1GK, KA1DYD, WB1CUS, K1BSO, WA1YDU, N1RI, WA1USA, KA1BAT, WA1YVV, N1ASR, W1GO and KA1ABI.

Thanks Gordon, I really appreciate reports like that from the JOURNAL readers.

I got a call from Mike, WB9YJF, the other day. He was the Danville, Illinois EOC where they have just recently installed a VHF RTTY system. We gave it the "smoke test" and it received a passing grade. The plan for this system is to link the Danville EOC with the other EOC's across east central Illinois and west central Indiana.

The Stark RTTY group in Massillon, Ohio sent in a copy of "Watts Happening". From their newsletter it looks like they are a very active group. With field day out of the way, they are planning for a hobby show and a "Special Event" station. They use 145.80 for simplex RTTY as does the Aurora, Illinois guys, also the Radio Society of Great Britian. Wonder if they QRM each other. Thanks for the newsletter (others are welcomed and read).

I want to tell you that someone DOES win the prizes that are given away at the Hamfests. After thirteen years of buying tickets, I brought home the first prize from the Terre Haute, Indiana Hamfest. It is a TS-130, a very sweet little rig. It works just great on RTTY. I'll bet that if I totaled up the money I have spent on tickets, I would find that I have paid for a KWM 380.....HI HI

Last issue, I mentioned the problem I had (caused would be more accurate) Well, I want to tell you that the guys at the Yaesu service center in Ohio are super co-operative. They helped diagnose the problem and even though it was 3 PM (4 PM their time) when I called, I had the new part in my hand at 11 o'clock the next morning. How's that for service? The best thing is that the rig now works FB.

You mid-westerners watch for me at the Hamfests, I'll be the guy passing out the sample RTTY JOURNALS to our non-subscriber buddies.

Send newsletters, info, problems or solutions to us. 73 for now CUL on the green keys.....WA9WJG

ANDRES - A SUCCESS STORY.

SAN DIEGO, CALIFORNIA..SATURDAY 14 FEBRUARY,1981.....

I shall never forget that morning when my telephone rang,long distance, on the line a friend, XE1COF Oscar, and a member of the XE2CRC, California Radio Club of Ensenada. His voice chocking, he told me of the horrible sickness....brain cancer had struck little Andres, son of Claudio Portillo of the same club. I couldn't stop crying as I listened to Oscar tell me of the plight of the little boy and his family, in trouble, needing help. Help was needed to pay the enormous hospital and doctors bills facing the father, Claudio. Claudio was unemployed and living in Ensenada with his five daughters, while Andres was in University Hospital in San Diego where his mother shared a room with him. Later, to cut down on some of the expenses, they moved to an apartment close to the hospital while Andres underwent treatment.

The eldest Portillo daughter, Herlinda, who is 17 years old, missed a year of school in order to take care of her baby sister, born during Andres' painful sickness. While her mother stayed with Andres, Herlinda took on the responsibilities of the household, including her four sisters care. The separation of the family lasted four months.

I pledged my help to the Portillo family, now, "How could I best help?" With permission from SANDRA president John WA6JTB and help from Mike WA6HJJ announcements aired on all ARES nets and San Diego area repeaters.

Contributions poured into the hospital; later on advice from hospital PR a fund was established in Andres name at San Diego Trust & Savings.

After a week or so the contributions stopped. Something had to be done. An Amateurs' nine year old son needed more help. Would the San Diego Evening Tribune help? They did by putting the story on the front page with color pictures and story by Hugh Grambau. More contributions but,again they stopped. $1,800.00 had been raised but $7,300.00 was still owed even after the hospital had absorbed $14,000.00.

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HOME BREWED AUTOMATIC TIME SENDING DEVICE BY: I8AA & I8RGD & K7BV.....

Our purpose was to have, for use in contest, a device which allows GMT time to be sent automatically.

A MM5314 is used because it is readily available. It doesn't have BCD output. It is possible, of course to use a different clock chip with BCD output. In that case, the interface with the first part of the circuit must be changed.

UC1 (74S188 fig 1) is programmed to convert 7 segments to BCD. Only segments A B E F G are used because they are sufficient to identify 0 thru 9 figures.

Resistive dividers UC2, four PNP transistors, UC3 and four delay nets are used to interface the voltage levels at clock-chip outputs with the following C-Mos logic.

BCD information enters the four CD4076 (fig 1) which are enabled and synchronized by UC4 and UC5 (two CD 4013).

Output at pin 3 of CD4051 (fig 2) is serial baudot. By means of an optocoupler, serial bits may enter a loop circuit, regardless of polarity, or a speed converter like the UT-4, TSR-500, etc.

If a UT-4 is used, building a clock generator is not necessary, connect the transmitter clock of the UT-4 to pin 1 of UC6 (CD4024), which is configured as a divide by 16.

Pushing the "START", GMT time is automatically sent one to ten times, controlled by switch position between outputs of UC3 (fig 2) and inverter 2a.

Time sent stays memorized at ABCD bus (outputs of UC6, 7, 8, 9, fig 1) until "START" is pushed again. So, in case the time message has not been received at the receive end (because of QRM, fading, etc.), pushing "REPEAT", the data memorized is sent again until time message is received properly. Push button "STOP" is used only to stop message at any time.

Maximum current at 5VDC is about 180 mA.

ATTENTION

Using a keyboard with a buffer (i.e., Info-tech M-300) or a regenerator-speed converter (like UT-4, TSR-500, etc.) push "START" or "REPEAT" only after the last character of a word typed is either sent or entered into the FIFO's in the speed converter. This is to avoid errors in transmission of data.

THEORY OF OPERATION

As soon as the device is switched on, main logic status is as follows:

- R (fig 1) is H
- Q2 (pin 12 of UC5) is H
- Pin 6 of three input Nand Gate 1b (CD4023) is L
- Pin 9 of Nand 2c (CD4011) is H
- Pin 2 of UC7 (CD4024) is H
- All outputs of UC7 are L
- Pin 3 of UC3 (CD4017) is H; all other outputs are L
- Pin 1 of UC5 (CD4002) is H
- UC9 Prom (74S188) is enabled, because it's pin 15 is L

When "START" is pushed, Pin 10 of 1c (fig 2) goes L enabling UC4 and UC5 to receive data from clock-chip. As soon as data of H10 is present at pin 19 (output) of clock-chip, pin 3 of UC4 goes H; Q1 of the same chip goes H and data enters UC6 (CD4076). Same thing happens for data of H1, M10 and M1 when, in synchronized sequence, Q2 of UC4, Q1 and Q2 of UC 5 go H in progression and data enters respectively UC7, UC8 and UC9 (fig 1). As soon as data of M1 has entered UC9, Q2 of UC5 goes L. This sets H pin 6 of three input Nand Gate 1b (fig 2), Nand Gate 2c goes from H to L. Thus UC7 (CD4024) begins to command multiplexer UC11 (CD4051) which starts to scan it's own 8 inputs D0 through D7. Due UC7 outputs D, E, F, G and L, UC11 reads outputs of address 0 of prom UC9 (Space). When this first cycle is ended, output D of UC7 goes H. This sets H output 1 (pin 14) of UC8 (CD4028 fig 2), but it does not yet modify the state of CE (pin 15) of Prom UC9, so that UC11 can read the outputs of address 1 of UC9 (figures), completing the second cycle of scanning. At this point D of UC7 goes L while E goes H, setting H output 2 (pin 2) of UC8. Consequently, pin 1 of UC5 (CD4002) goes L, inhibiting Prom UC9 while enabling Prom UC10. At the same time, pin 6 of UC4 (CD4069) goes L and enables outputs of UC6 (CD4076 fig 1). Now, outputs of this one A B C D (Q1, Q2, Q3, Q4) are converted in Baudot by Prom UC10 and UC11 can read the outputs of the addresses of this Prom. At the end of this first cycle of scanning, D of UC7 goes H while E stays H. This sets pin 4 of UC5 L and pin 2 H (fig 2). Therefore, UC7 (CD 4076) is enabled, it's outputs are converted in Baudot by Prom UC10 and read by UC11. The same happens, in progression, with UC8 and UC9 (fig 1) outputs. When all outputs of addresses of Prom 10 are serial sent by UC11, pins 2, 15, 1, and 6 of UC8 are L again.

At this pint we may have two conditions:

1) Input of 2a (CD4011) may be connected by a rotary switch, to pin 3 of UC3 (CD4017)

2) Input of 2a may, instead, be connected to one of the other nine outputs of UC3.

If input of 2a is connected to pin 3 of UC3, Nand 2d is inhibited, output of Nand 2c stays L, UC11 continues to scan outputs of addresses 6 and 7 (ltrs, space) of Prom UC9 and when reaches output of address 8, stops, because bit 6 of this one is 0. This changes the state of the two FF, the cycle stops and all returns to the initial condition.

If input of Nand 2a is connected to one of the other outputs of UC3, Nand 2d continues to be enabled and UC7 is reset to zero. The front of fall of square wave at pin 7 of UC8

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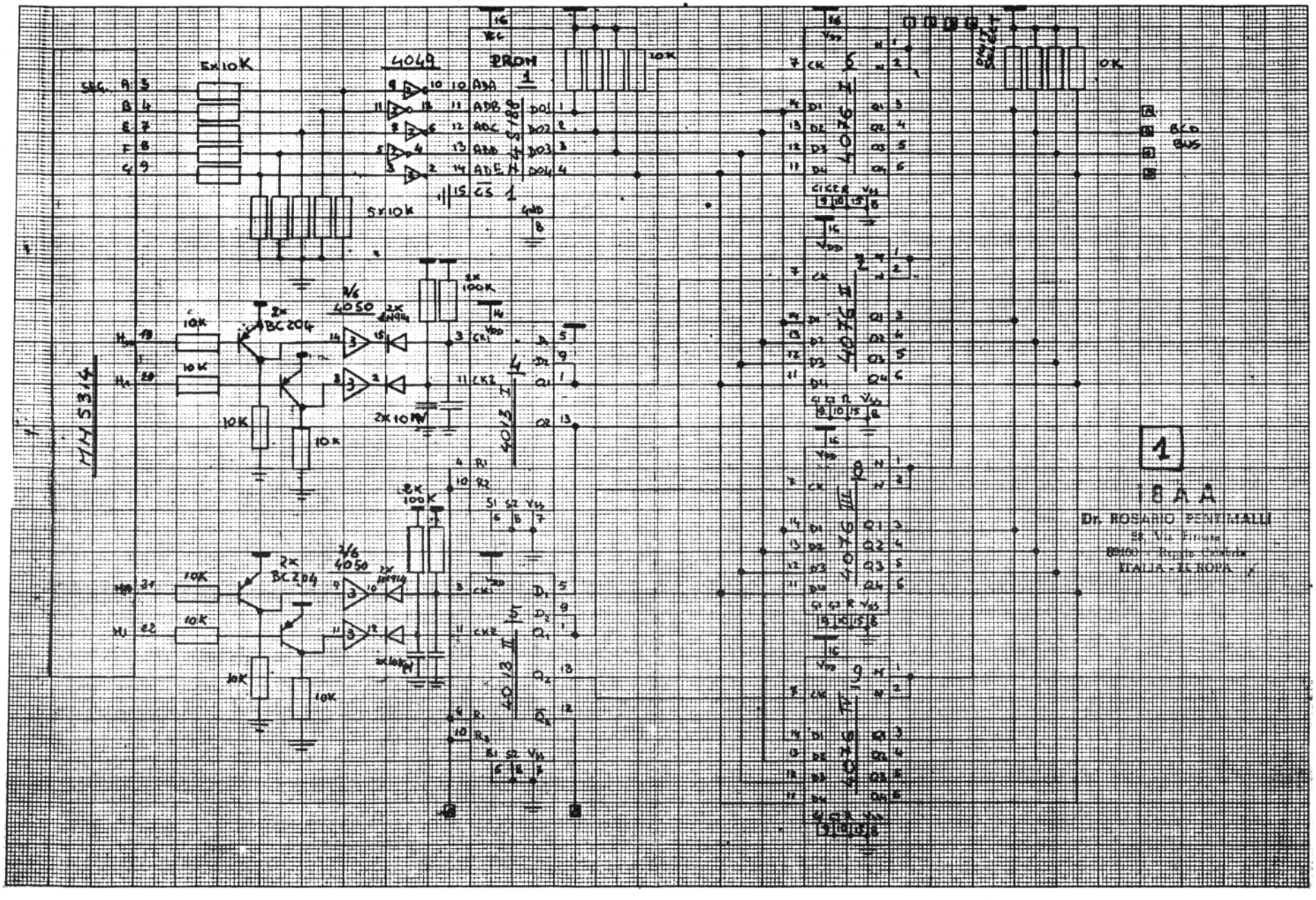
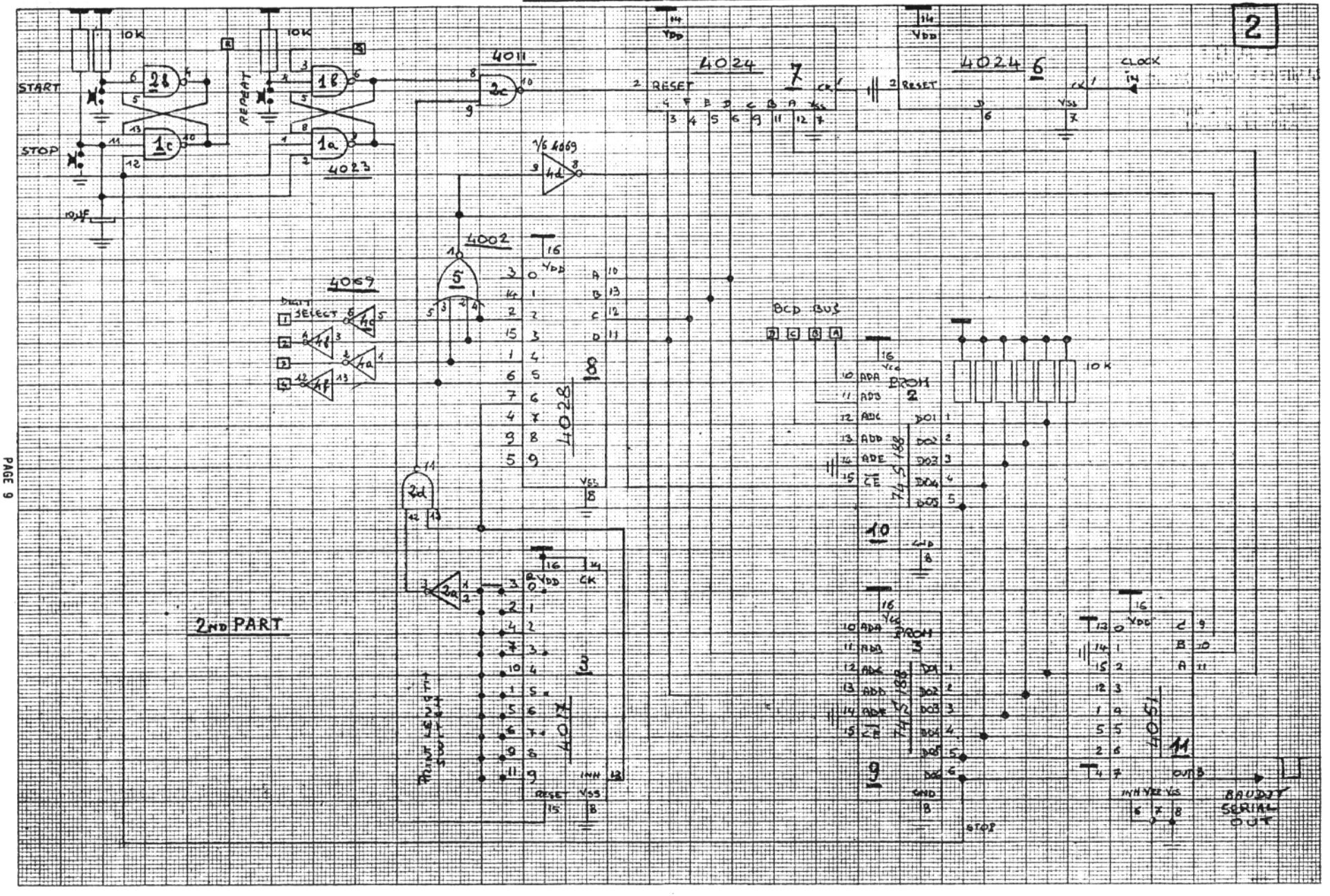
AUTO-TIME CONVERTER AND BUFFER

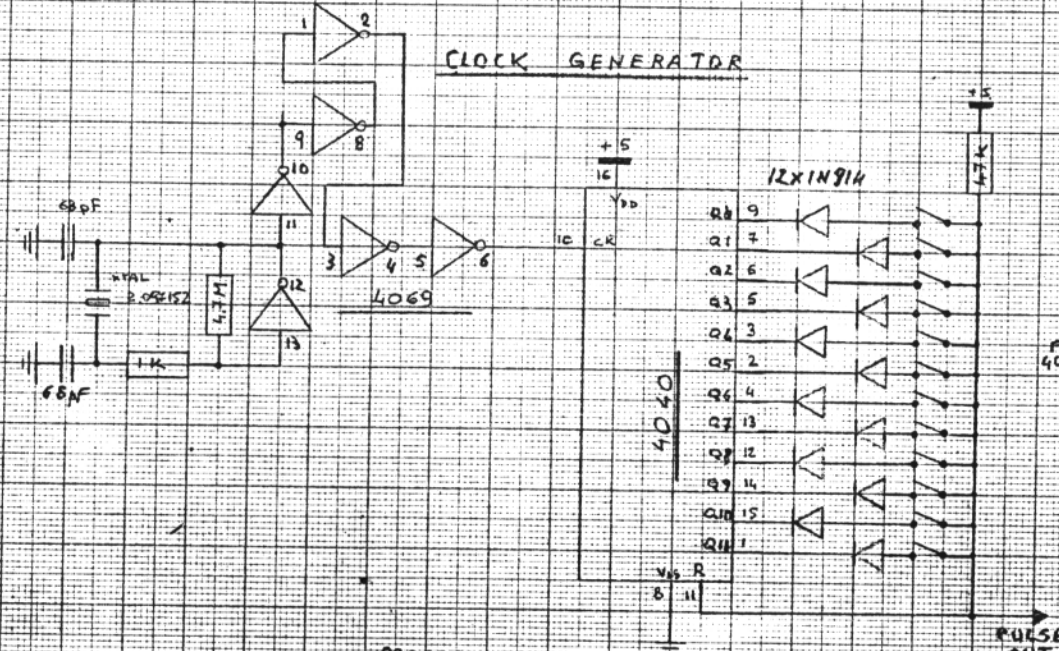


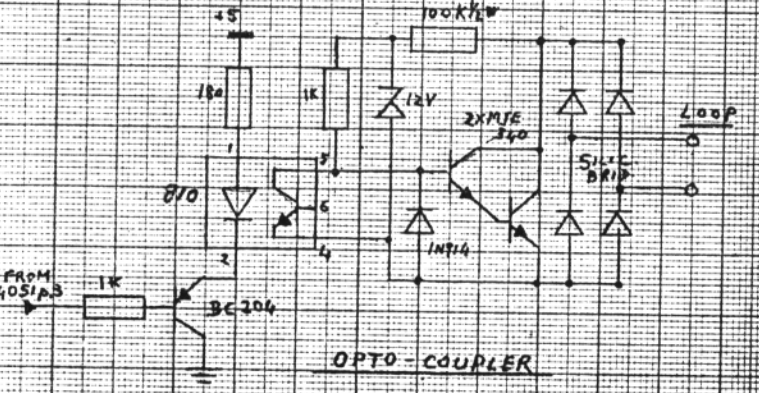
AUTO-TIME TRANSMITTER



CLOCK GEN. AND OPTO-COUPLER

3





PROGRAMMING THE 4040

BAUDS	Q11	Q10	Q9	Q8	Q7	Q6	Q5	Q4	Q3	Q2	Q1	Q0
110	0	1	0	0	1	0	1	0	0	1	1	1
75	0	1	1	0	1	1	0	1	0	1	0	0
57	1	0	0	0	1	1	1	1	1	0	1	1
50	1	0	1	0	0	0	1	1	1	1	0	0
45	1	0	1	1	0	1	0	0	0	1	0	0

PROM.1
SEVEN SEGMENT TO BCD

	INP.					OUT				
A.	A	B	C	D	E		1	2	3	4
16	0	0	0	0	1	0	0	0	0	0
29	1	0	1	1	1	1	1	0	0	0
08	0	0	0	1	0	2	0	1	0	0
12	0	0	1	1	0	3	1	1	0	0
05	1	0	1	0	0	4	0	0	1	0
06	0	1	1	0	0	5	1	0	1	0
03	1	1	0	0	0	6	0	1	1	0
28	0	0	1	1	1	7	1	1	1	0
00	0	0	0	0	0	8	0	0	0	1
04	0	0	1	0	0	9	1	0	0	1

PROM. 2
BCD TO BAUDS

	INP.					OUT					
A.	A	B	C	D	E		1	2	3	4	5
00	0	0	0	0	0	0	0	1	1	0	1
01	1	0	0	0	0	1	1	1	1	0	1
02	0	1	0	0	0	2	1	1	0	0	1
03	1	1	0	0	0	3	1	0	0	0	0
04	0	0	1	0	0	4	0	1	0	1	0
05	1	0	1	0	0	5	0	0	0	0	1
06	0	1	1	0	0	6	1	0	1	0	1
07	1	1	1	0	0	7	1	1	1	0	0
08	0	0	0	1	0	8	0	1	1	0	0
09	1	0	0	1	0	9	0	0	0	1	1

PROM.3
BCD TO BAUDS

A.	A	B	C	D	E	OUT	1	2	3	4	5	6
00	0	0	0	0	0	SP.	0	0	1	0	0	1
01	1	0	0	0	0	FIG	1	1	0	1	1	1
02	0	1	0	0	0	LTRS	1	1	1	1	1	1
03	1	1	0	0	0	LTRS	1	1	1	1	1	1
04	0	0	1	0	0	LTRS	1	1	1	1	1	1
05	1	0	1	0	0	LTRS	1	1	1	1	1	1
06	0	1	1	0	0	LTRS	1	1	1	1	1	1
07	1	1	1	0	0	SP	0	0	1	0	0	1

4

• RTTY-DX •

Skip Prinsen, WB6CYA-3611 Merrimac, San Diego, CA 92117.(714)276-3182

Greetings to all.....

Well the SARTG contest is going full swing here and the band is in much better shape then it has been in quite a few days. So far there have been very few new stations on and the only one that I printed or heard of was V56CT which many will be happy to see on as he has a state-side QSL manager. Cards go to KB9N and strangely enuff that is a good callsign as I shortly found out after tuning the bands this morning.I tuned thru the 10 and 15 meter voice bands to see if they were open when lo and behold there was KB9N, so his is a good one. His address is RR4, Box 86 Kankakee,IL 60901.

Franco Fanti, I4LCF was injured during a recent holiday and as a result there will be a delay in the scoring and results for the Asia and Oceania and North and South America contests held earlier this year.

KØBJ is looking to get in touch with Dick, WA3JTC can anyone let Bruce know how they can get in touch with Dick? The last that I knew Dick was in Memphis, Tenn. Also in the lost and found department this month, several people are looking for KV4RQ. Does anyone know where the good doctor might be?

I have had a lot of interest in the offer of supplying copies of W6-FFC's software for the Heath Micro-computers and will continue to make this available to anyone that wishes to have it. I presently have 16 diskettes full of software that Irv and others on the 14.0025 MHZ autostart net have written. To obtain these disks either call me on the telephone or write for the info.

Bob WØLHS writes and asks a very good question? Why can't ROBOT or HAL or some of the other manufacturers of TU's loan some of the DXPO's their equipment? I think this is a good one and also might add that perhaps no one has asked them if they would loan their equipment. So what say everyone? If you know of a DXPO that is going to be going and does not have RTTY gear with them let's see what can be done to get them to carry RTTY stuff with them. There are several rigs now available that are not heavy and could be stuffed into a corner to be carried along.

I am behind in sending out the Stickers that go on the DXCC awards so if I owe you one and you have not received it by the time you read this please let me know and will send you another one. I am having to have new ones made up and it seems to take forever.

Keep an eye open for HH2MC, as he is due on RTTY very soon.

The following is a listing of some of the stations that have been worked or heard on the air in the past two months. Thanks go to the following for their help: John W3KV, Jake K5WTA Paul KØPJ/6, Bruce KOBJ, Jerry KOJH, Bill WØLHS and Ed KA7BDB.
CN8BI Via IOUWG, CP6EL, CT1AFC, DU1-RBN on 14 MHZ at 1300Z, DU7GB on 14 MHZ 1000Z, EA2ADT via WD8LPB, EA6GV, EA6HH, EA8ZY, FG7BG 97139 Capesterre Be on 21 MHZZZat 1700Z, FM7BW at 0500 Z, FO8FN Box 125 Papeete, G14PHP.

HAM HELPS

Erik Nilsson of Sweden writes that one of his readers has written to him for help with an OHIO computer (I assume that this is the OHIO Scientific System). Olle Larsson, SM7DRN, Kummingr 6, 5-383 00 Monsteras, Sweden. Olle is looking for an RTTY program to run in his Superboard system can anyone give him a hand?

KONTEST KORNER

WAEDC	14-15 Nov 81	Apr 81
GARTG	17 Oct 81	Apr 81
CARTG	17-18 Oct 81	Jul 81
AUSTRALIA-OCEANIA & ASIA FLASH	Jan 82	COMING
BARTG	Mar 82	COMING

AWARDS SECTION
Worked All Continents

10 Meters

#12 8-1-81 N.Lazarov, LZ2KRR

15 Meters

#19 8-1-81 J.Maynard, G4EJA
#20 8-1-81 P.Del Castillo, EA8RU
#21 8-1-81 J. Chandler, K4UDM

20 Meters

#91 8-1-81 B.Frahm, KØBJ
#92 8-1-81 N.Indarto, YB2BLI
#93 8-1-81 J. Chandler, K4UDM

Mixed Bands

8-1-81 B. Snyder, WOLHS
8-1-81 P.Numez, EA3BLQ
8-1-81 J.Dudhl-Lasjon,OZ1CRL

TIME SENDER CONTINUED

advances counter UC3, one step;, so, the cycle begins again from output of address Ø of UC9 Prom and so on until the progression of the counter UC3 reaches the pin which has been connected to the input of Nand 2a. At this point, we have condition 1) again and the FF change state of their outputs and all returns to initial condition.

TEST PROCEDURE

For testing the first part of the circuit (board 1), disconnect AC line, disconnect ABCD bus from board 2, disconnect R and Q2 from board 2, connect a 10K resistor between R and 5 volts DC, same for B C D. Install a push button between R and Ground. Connect AC and apply power. Push the push button and note the time displayed. Now, R is L and Q2 is H. Connect line A to GND and check status of pin 3 of UC6, 7, 8 and 9 using a VTVM. Levels must show the figure of first digit (H10) which is displayed when the push button is pushed. Disconnect pin 3 from ground and connect pin 4 to ground. Levels must show the figure of second digit (H1) which was displayed when the push button was pushed.....repeat procedure for pins 5 and 6 of UC6, UC7, UC8 and UC9. Levels at pin 5 and 6 must show the figure of 3rd (M10) and the 4th (M 1) digit, respectively. Board 1 & 2 will be printed next month. Translation by Mac,K7BV..... I8AA and I8RGD

CLASSIFIED ADS

30 WORDS $3.00, ADDITIONAL WORDS 5¢ EACH CASH WITH COPY--DEADLINE 1st of month for following month.

FILTERS-3 POLE BUTTERWORTH LC type input bandpass for 170, 425 and 850 HZ shift. 3db/20db shape factor 2.0 to 2.7 depending on bandwidth. Input 750 ohms or less output high impedance. $37 each set of 3 $99 PPD. Send SASE for typical response curves Eric Kern, 4162 Brisbane, Irvine,CA 92715.

FREE AD with subscription (20 words free, extras $.10 each)! Ham Buy, Sell, Trade, Want ads. 12 issues $3.00, 24 issues $5.00. WA4OSR's Rigs & Stuff (TM),Dept RY9, Box 973, Mobile,AL 36601.

WORLD PRESS RADIOTELETYPE STATION lists. Over 50 different worldwide press services contained in three lists. By time, by frequencies and ITU combination list. All transmitting in English. 24 hours. Hundreds of confidential and fascinating RTTY news stations in these up to date lists. Utilize your present equipment. Book with lists $5.95 plus $.50 shipping. Universal Electronics, 1280 Aida Drive, Reynoldsburg, OH 43068.

FOR SALE: 6th edition of the "LIST OF RTTY STATIONS IN FREQUENCY ORDER", now contains 1717 frequencies monitored in 1980-81 of commercial stations like press, aeronautical, weather, telex, military, diplo, maritime etc.,on shortwave. Schedule of 82 news agency stations on 641 frequencies, and 178 special abbreviations are also included. This offset printed list is airmailed to you for $17.00 (chech or cash) from Joerg Klingenfuss, Panoramstrasse 81,D-7400 Tuebingen 7, West Germany.

THOUSANDS OF COMMERCIAL RTTY STATIONS are active between the amateur shortwave bands. Many of them can be easily printed with your existing equipment. (Take care of legislative restrictions if applicable!) If interested you need "software", compiled from nonstop monitoring the complete shortwave spectrum. I have up-to-date frequency, callsign, schedule, code lists on press, military, diplo,telex aeronautical, weather etc. stations. Write for details. Joerg Klingenfuss, Panoramastrasse 81, D-7400 Tuebingen 7, West Germany.

FOR SALE: "LIST OF NEW RADIO REGULATIONS DECIDED AT WARC 1979", containing the original texts of those new Radio Regulations (RRs) which are of essential interest to radio amateurs. They cover:terms and definitions; designation of emissions (completely revised); frequencies; call signs; broadcasting service; amateur service. The chapter dealing with frequencies contains the new Table of Frequency Allocations from 9 kHz to 150 MHz including all footnotes. Most of these new RRs will come into force on 1, January 1982. The list is compiled from official ITU documents and includes also the agenda and the final acts of the Conference. This offset printed and hardbound book is airmailed to you for $16.00 (check or cash) from Joerg Klingenfuss, Panoramstrasse 81, D-7400 Tuebingen 7, West Germany.

RTTY CLOSEOUT- 50% off of all RTTY equipment listed on my January, 1981 list. Send SASE for six-page list and prices of Model 14, 15, 28, 33 and 35 Teletype equipment, parts and supplies. Lawrence R. Pfleger, K9WJB, 2600 S. 14th St., St. Cloud, MN 56301 Phone 612-255-9794.

TELETYPE, KLEINSCHMIDT Repair parts wanted, unused. M 14 thru 40. Possibly can pick up at your QTH. Cash or trade for any quantity. Write Typetronics, Box 8873, Ft. Lauderdale,FL 33310, or phone 305-583-1340 after 10PM EST. Send SASE for list of parts gears, ribbons, supplies, toroids. Fred Schmidt, N4TT, ex-W4NYF.

TELETYPE EQUIPMENT and Parts. Model 14, 28, 33, 35 machines. Parts for 14 thru 35. Model 28 friction feed mod kit $38.00 PPD. Loop transition motor control $10 PPD. Bach into TTY after being tied up in school. SASE for 1981 equipment list. Poul Andersen, 115 Boyken Rd., Rochester, MI 48063. 313-652-3060.

BARGAINS GALORE,Teletype machines, paper & tape winders, modems etc. STATE YOUR WANTS-must clean warehouse SASE for reply. C.B Goodman, 5454 S. Shore Drive, Chicago,IL 60615. 312-753-8342.

WANTED TO TRADE RTTY PICTURES mainly interested in originals and pictures that have not been sent out on 20 meters. If interested send your list with originals marked. Will return it with my list of over 1,200 to choose from. Send to Larry Claouse, 305 W. Benton, Windsor, MO 65360.

HAM RADIO MAGAZINE. The no nonsence state-of-the-art technical magazine. Dozens of existing projects and an emphasis on quality unmatched by any other radio magazine. Subscribe now and see for yourself. 1 year $16.50, 2 years $28.50, 3 years $38.50. Ham Radio Magazine,Greenville, NH 03043.

TELETYPES, M28 ASR's in excellent condition, complete only $195. M-28 printer-reperforator self-contained with keyboard $90. M-33 ASR's $300. Write Calvin, 505 Gerard, Pleasanton, CA 94566. 415-846-3095.

FOR SALE 2 MODEL 28 ASR, 2 Model 35 ASR, data sets, misc. items. Write for list if Canadian mail strike over or phone 1-204-669-1675 Eve. No collect. Wes Nowosad, 10 Karen St., Winmipeg, Man., Canada.

WANTED: SPARE PARTS for Teletype Corp Kleinschmidt Corp., and Mite Corp. machines. Please send list. Phil Rickson, W4LNW, POB 70, Morrisonville NY 12962.

THE RACK LINE BY DAYTAPRO, for individual or repeater these versatile uniform boards will do the job. All boards are 4½ x 6½ inches, (same size as DT-600 board), solder plated with 22 pin edge connector for easy servicing. All kits have edge connectors included. CW ID SYSTEM, Interfaced for digital, FSK or AFSK keying, 10 minute timer, variable speed (5-25 WPM), 5 or 12 volt use. Kit $37.90, NOW ON SALE, $27.90, Board alone $8.95. UT-2 SPEED CONVERTOR, options include transitional autostart, on board clock parallel buffered outputs and FSK out Board has two clocks for basic speed conversion (one speed per clock), For multi-speed use see XB-6 kit. May be used for ASCII with few modifications. Complete kit $39.95 Board alone $13.95. UT-4D KITS AND BOARDS, see other ad in this issue.

KIT $109.95, board $22.95. TU-LOOP POWER SUPPLY,If you are looking for the ideal loop supply for your TU this is it. This board has provisions for a plus and negative supply (12 or 15 volts) a 5 volt supply and a high voltage loop supply. All supplies need not be mounted on the board for operation. Loop supply has on board provisions for keying transistor. All supplies have LED power status indication. Basic +12, +5, -12 volt supply $34.99, loop supply alone $31.99, both supplies complete $56.99.

DUEL XB-6 UART CLOCK, Develops 6 buad rates for each side of UART. Rock solid accuracy with use of crystals, good for both UT-2 and UT-4 systems. Kit $29.95, Board alone $8.95.

CRYSTAL CONTROLLED AFSK KIT. Supplies rock solid tones of 2125 for mark and 2295 or 2975 for space. Avoid drift with crystal control. Kit $29.95, Board alone $8.95.

MS512 SINGLE BOARD SUPPLY. Where space is at a premium this single voltage supply fits. Voltage is determined by regulator, supplies vary from 5 to 24 volts with change of regulator and transformer. All parts include transformer fit on the 2-1/4 x 4-1/2 board. Current output 700 ma. to 1 amp. May be configured for negative or positive supplies. Specify negative or positive voltage, 5, 6, 8, 12, 13.2, 15, 18 or 24 volt. Complete kit (5-18 volt $13.95) (24 volt $14.95). Board alone $5.75.

AVAILABLE FROM DAYTAPRO ELECTRONICS 3029 N. Wilshire Ln., Arlington Hts. Ill. 60004. Add $1.25 for shipping. Use your Visa/MC for added convenience. Phone evenings 312-870-0555.

SALE! RTTY ID GENERATOR. Accepts 5 or 12 volt supplies, 31 RTTY characters available, (please include letters, figures, spaces etc.). Your preprogrammed answer-back must be supplied with order. Ex:DE YOUR CALL, NAME, CITY AND STATE. See Jan. 1980 RTTY Journal for complete description. Board is same size as popular ST-6 boards. Kit $34.99, now on sale $24.95; Board alone was $8.50, now priced $4.00. Please add $1.50 for shipping. DAYTAPRO ELECTRONICS, 3029 N. Wilshire, Arlington Hts., Ill. 60004.Visa/MC accepted. 312-870-0555

UT-4D KITS AND BOARDS. Now better than ever. Complete speed conversion with many extras, which include transitional autostart, on-board clocks, expanded buffer and easy assembly. Board is the same size as DT-600 Tu (4-1/2 x 6-1/2). See our other ad for power supply and optional crystal clock. Board kit for UT-4D $109.95, Plated thru board alone $22.95. Please ad $1.50 for shipping.DAYTAPRO ELECTRONICS, 3029 N. Wilshire,Arlington Hts., Ill. 60004. Phone orders welcome, Visa/MC, 312-870-0555.

Now keep sending while you CW ID. The MS-738 AFSK tone mixer is the VHF'ers answer. See November 1979 RTTY Journal for full description. Kit $10.95 plus $1.25 shipping. DAYTAPRO ELEC TRONICS, 3029 N. Wilshire, Arlington Hts., Ill. 60004. Visa/MC accepted.

FOR SALE: Teletype Model 35 ASR, Mint Condition. Call 312-870-0555 Evenings or Write Neil Petlock, 3029 N. Wilshire Ln., Arlington Hts., Ill. 60004 $400.00/best offer.

FOR SALE: Datapoint 3000 CRT Terminal Async out. up to 2400 Baud, Green Screen 72 Char x 24 Lines. $350.00/ best offer. Sell Bardot to ASCII/ ASCII to Bardot Convert with Dt-600 Tu, AFSK output, CW ID board.$250.00/ offer. 312-966-5323. Joel Weiner, 7707 Maple St., Morton Grove,IL 60053

FOR SALE, COMPLETE RTTY STATION. HAL DKB-2010 RTTY/Morse keyboard, HAL RVD 1005 video converter, HAL ST-5 terminal unit, FS-1 AFSK generator, and 9" Motorola video monitor. Excellent condition, with complete user and technical manuals. $495 plus $20 UPS shipping.Call Dick KOVKH 605-343-6127

FOR SALE, SUPER RTTY/CW/ASCII station Mint condition used INFO-TECH, M-300C Tri-mode keyboard, Info-Tech M-200F tri-mode video terminal unit, and Javelin video monitor. Complete manuals New cost over $1250.00. Your cost $850 plus $20 UPS shipping. Call Dick KØVKH 605-343-6127.

WANTED-TELETYPE LESU-68 for Model 28 ASR; also LESU-11 (Bell Syatem 28C Electrical Service Unit) or LESU-13 (Bell 28F) or LESU-15 (Bell 28G) and modification kits 164120, 164633, 164640. All replies answered. Bill, W4NZY, 119 North Birchwood Avenue, Louisville, KY 40206.

ANDRES CONTINUED

Meanwhile, Andres had improved and was making good progress despite the fact that, due to the effects from chemotherapy treatments affecting his spine, Andres might stop growing.

On June 3,1981, Mr. Grambau wrote a happier story about Andres, now reunited with his family in Ensenada. His father Claudio expressed the families thanks and gratitude to all of the people and especially the Amateur Radio Clubs of California and Mexico and the San Diego Teleprinters Society for their donations.

Claudio is still faced with $5,500. in doctor and hospital bills and the family is worried. If he doesn't find work soon, how can he pay the remaining bills? He soon must make a $300. payment towards those bills. And, Andres must go back to the doctors in October. Separation again.

If anyone wishes to donate to help Andres and family they may do so by sending their check to:Andres Portillo Fund, c/o Christine Tyberg (coordinator of the fund), 379 Jackdaw St., San Diego,CA 92103.

Thanks to all,73 & 88,Chris WD6DNW.

FLEXIBLE AUTO SWITCHING CONTINUED

keep the volume down when that source is not in use. This could be of great inportance if you leave your equipment on 24 hours a day, for greatest stability.

You might be on the lookout for some more complicated switches for this task that would allow you to keep each un-used "source" properly terminated, or simply use single pole single throw switches to operate relays which could then do the more complex switching. But then you are doing a lot more work for very little gain.

If anyone is going to try this system,please feel free to send for a copy of the full drawing and wiring hints with an SASE, likewise for any questions. If too many similar questions arise, perhaps a follow-up article would be in order.

RALPH IRISH, WA8GDT.....

BY POPULAR REQUEST...

The Best Features Of Two Proven HAL RTTY Models
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- **Self contained RTTY and CW terminal —RTTY demodulator is now internal!**
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- **Word wrap-around, Unshift On Space (USOS), and Synchronous Idle Transmit.**
- **Edit as you type with WORD transmit mode.**
- **Built-in demodulator is a proven ST5000 demodulator, not a simple compromise.**

[1]Use your own high voltage loop supply.
[2]External modem recommended for 300 baud.

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